

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/004517

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ H01S5/12

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ H01S5/00-5/50

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho 1922-1996 Toroku Jitsuyo Shinan Koho 1994-2004
Kokai Jitsuyo Shinan Koho 1971-2004 Jitsuyo Shiran Toroku Koho 1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Yoshio NAKANO, Kunio TADA, 'FP Kyoshin to Ketsugo shita DFB, DBR Laser to Sono Hasshin Hacho no Ondo Hosyo Tokusei no Kaiseki', Denki Gakkai Kenkyukai Hikari Ryoshi Device Kenkyukai, 1984, Vol.OQR-84, No.54-69, pages 55 to 62	1,2,4,5,8,9, 10,16 30
Y	JP 9-92924 A (Nippon Telegraph And Telephone Corp.), 04 April, 1997 (04.04.97), Full text; all drawings (Family: none)	1,2,4,5,8,9, 10,16,18 30
Y	JP 2000-223787 A (Canon Inc.), 11 August, 2000 (11.08.00), Par. No. [0021] (Family: none)	3,6,7

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	
"A"	document defining the general state of the art which is not considered to be of particular relevance
"E"	earlier application or patent but published on or after the international filing date
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O"	document referring to an oral disclosure, use, exhibition or other means
"P"	document published prior to the international filing date but later than the priority date claimed
"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&"	document member of the same patent family

Date of the actual completion of the international search
29 June, 2004 (29.06.04)Date of mailing of the international search report
27 July, 2004 (27.07.04)Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 6-338650 A (Matsushita Electric Industrial Co., Ltd.), 06 December, 1994 (06.12.94), Fig. 7 (Family: none)	14, 15, 19
Y	JP 5-48198 A (NEC Corp.), 26 February, 1993 (26.02.93), Fig. 3 (Family: none)	14, 15, 19
Y	JP 2002-14247 A (Nippon Telegraph And Telephone Corp.), 18 January, 2002 (18.01.02), Full text; all drawings (Family: none)	17
Y	JP 9-36495 A (NEC Corp.), 27 February, 1997 (27.02.97), Full text; all drawings (Family: none)	17
X	JP 2002-328244 A (Nippon Telegraph And Telephone Corp.), 15 November, 2002 (15.11.02), Full text; all drawings (Family: none)	20-35
X	JP 9-331102 A (Canon Inc.), 22 December, 1997 (22.12.97), Par. Nos. [0019] to [0029]; Figs. 1, 2, 5 (Family: none)	36-49
A	Takeshi KUROSAKI et al., 'Batto Jointo-gata Hikari Doharo Shuseki Soshi ni Okeru Naibu Hansha Yokuseho', The Transactions of the Institute of Electronics, Information and Communication Engineers, C-I, Vol.J79-C-I, No.12, (1996), pages 482 to 483	36-49
A	JP 8-211342 A (Hitachi, Ltd.), 20 August, 1996 (20.08.96), Fig. 4 (Family: none)	36-49
A	JP 2000-19345 A (NEC Corp.), 21 January, 2000 (21.01.00), Full text; all drawings (Family: none)	36-49